MILLIMETER-WAVE AREA-PROTECTION SYSTEM AND METHOD

Abstract of the Disclosure

An area-protection system uses an active-array antenna to generate a high-power millimeter-wave wavefront to deter an intruder within a protected area. One or more reflectors may be positioned within the protected area to help retain energy of the wavefront within the area. The area-protection system may include an intrusion-detection subsystem to detect presence of the intruder within the protected area and to generate a detection signal. The active-array antenna may generate the high-power millimeter-wave wavefront in response to the detection signal. In some embodiments, the intrusion-detection subsystem may detect the presence of a tag worn by the intruder, and may instruct the array antenna to refrain from generating the wavefront when tag is authenticated. In some embodiments, an illuminator may be used detect intruder movement based on return signals. In some embodiments, the array antenna includes semiconductor wafers arranged together on a substantially flat surface.